RESEARCH REPORT DOCUMENTATION PAGE

1. Report No.	2. Report Date	3. Contract No.		4. Project No.	
MR 96-01 5. Title and Subtitle	July 2004	N/A	6. Report Type	IM-1-094(017)156 7. Project No.	
Evaluation of Epoxy-Coated Reinforcing Steel			Click on link to open report. Work Plan □ Construction□ Evaluation ⋈	8. Project No.	
				9. Project No.	
				10. Project No.	
			Final	,,,,,,,	
11. Author(s)/Principle Investigator(s) Curt Dunn, Rhaub Walker, Steven Henrichs					
12. Performing Organization Name and Address			13. Sponsoring Agency Name and Address		
=				North Dakota DOT	
NDSU 30	00 Airport Road		Materials and Research Division 300 Airport Road		
UND ☐ Bi	smarck ND 58504-6005		Bismarck ND 58504-6005		
OTHER*					
*see supplementary notes					
14. Supplementary Notes					
15. Abstract Purpose and Need					
Reinforced concrete structures can experience premature deterioration due to the effects of corrosion of the reinforcing steel. When the reinforcing steel is exposed to moisture and oxygen, corrosion is formed. The addition of salt related admixtures can accelerate the corrosion process. The NDDOT desires materials that will resist corrosion and lengthen the life of reinforced concrete.					
Objective					
The objective of this study is to determine if epoxy-coated reinforcing steel will serve as a corrosion-protection system for concrete structures and ultimately extend the service life of the structure. Scope					
The North Dakota Department of Transportation (NDDOT) has substituted epoxy-coated reinforcing steel for regular reinforcing steel in a portion of the continuous reinforced concrete pavement project IM-1-094(017)156 (WB). Project IM-1-094(017)156 (WB) is located on I-94 from the West Midway Interchange east to the East Bismarck Interchange. The epoxy-coated reinforcing steel test section is located between the Washington and 4th Street Bridges from Station 363+03.0 to Station 380+97.8. The control section will lie adjacent and to the east of the test section between Station 382+42.8 and Station 400+37.6. The test and control sections will be visually evaluated annually for the number and size of cracks. Summary					
After approximately nine years of service there appears to be little difference in performance between that portion of the CRCP constructed with epoxy-coated reinforcing steel and that which was constructed with plain reinforcing steel. For both of the segments evaluated, the widths between the transverse cracks were typical for reinforced concrete. However, the control section did appear to have more partial cracks intersecting the narrow and wide transverse cracks. At this time, the number of transverse cracks are slightly higher in the control section to that of the test section. The difference mainly appears to be in the number of narrow and partial transverse cracks. The crack widths are approximately the same in both segments.					
16. Key Words	17. Distribution Statement			18. No. of Pages	
		document is available	to the public from:	25	
Concrete Pavement Continuous	North Dakota Department of Tran			19. File type/Size	
Reinforcement Materials and Research Epoxy-coated 300 Airport Road Reinforcing Steel Bismarck ND 58504-					
				Pdf/ 1 MB	
Ŭ	Office: (701) 32		ax: (701) 328-0310		